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SECOND REPORT OF THE ADVISORY COMMITTEE ON THE CENSUS

A REPORT OF PROGRESS BY THE JOINT COMMITTEE OF THE
AMERICAN STATISTICAL ASSOCIATION AND THE AMERICAN ECONOMIC
ASSOCIATION TO ADVISE THE DIRECTOR OF THE CENSUS
*To the American Economic Association and the American Statistical
Association:*

The second report of progress of your Joint Advisory Committee to the Director of the Census is respectfully submitted herewith.

ORIGIN OF THE COMMITTEE

At the request of the Secretary of Commerce each of these Associations at the annual meeting held at Richmond in December, 1918, designated three members to represent it upon a joint committee to advise with the Director of the Census concerning the taking, tabulating, and publishing of the Fourteenth Census of the United States. This Joint Committee of six organized for work in February, 1919, and each member was subsequently appointed a special agent of the Census Bureau at the compensation of \$1.00 a year. To the annual meeting of each of the two Associations held at Chicago in December, 1919, the first report of progress was submitted. It was later printed in pamphlet form and also in the Quarterly Journal of the AMERICAN STATISTICAL ASSOCIATION, (Vol. XVII, pages 76-106) and the *American Economic Review*, (Vol. X, supplement pages 267-278).

ACTIVITIES DURING THE YEAR

The present report covers the activities of the Committee from the date of the last report to December 1, 1920. During that period five meetings of the Joint Committee have been held at Washington:

January	23-24, 1920,
April	23-24, 1920,
May	28-29, 1920,
October	8- 9, 1920,
November	19-20, 1920.

The departure last autumn of Professor E. R. A. Seligman, a representative of the American Economic Association, to California to exchange with Professor Carl C. Plehn of the University of California, left a temporary vacancy, and the remaining members of the Committee informally invited Professor Plehn to sit with them on the Committee. This invitation Professor Plehn accepted, and he at-

tended the meetings held on April 23 and 24 and on May 28 and 29. Professor Seligman resumed his place on the Committee at the October meeting.

Twenty-five recommendations in all were adopted at the five meetings of the Committee held during the past year (see Appendix I). Eleven of these related to the presentation of the statistics of population, four to that of the statistics of agriculture, two to that of statistics of manufactures, and eight to general matters of census policy.

The recommendations made by the Committee during 1919 numbered thirty-nine and thus were more numerous than those made during 1920.

This reduction in the number of recommendations does not mean that during its second year the activities of the Committee lessened. On the contrary the Committee believes that its work has increased in value as its members have become more familiar with Census work and have come into closer contact with the Census staff. But it has found its main opportunities for service in the application of the principles set forth in its recommendations to the many current problems of census procedure.

The recommendations made in 1919 dealt with a great variety of subjects pertaining to preliminary organization. During 1920 the sessions of the Committee have been held with the enumeration of the Fourteenth Census either well under way or an accomplished fact. Hence definite problems of statistical policy, form of presentation of tables, and extent and character of text, all matters of extreme importance to the Bureau and many of them subject to long-standing differences of opinion within the office, were referred to the Committee. Full consideration was given each problem presented, and recommendations embodying the Committee's recommendations were made. In nearly every instance these recommendations were accepted by the Bureau. Thus within the past year the census officials have made larger use of the Committee as a court of appeal on disputed points.

POLICIES ADVOCATED

From the beginning of its work the Joint Advisory Committee has had two guiding policies: (1) To aid the Bureau of the Census to expedite the publication of the basic tables relating to population, agriculture, and manufactures, and (2) To aid the Bureau to secure an adequate scientific analysis of the data.

In pursuance of the first aim the Committee has recommended such simplification of the main census reports as will reduce the time required to prepare them for the printer without reducing the scope or

accuracy of the fundamental tables. For example, it has accompanied its recommendation that appropriate cartograms be used in bulletins with the proviso that their preparation does not postpone publication more than ten days. Again, believing that the number of percentages and averages included in the final volumes of the Thirteenth Census was so great as to cause delay in the completion of the manuscripts, the Committee has recommended that figures of this description be greatly reduced in the volumes of the Fourteenth Census. Finally, the Committee has twice this year called attention to one of last year's resolutions. ". . . that no text be printed in the bulletins and final reports that is not needed to clarify tables, or to prevent misconstruction of figures, and that all interpretation be reserved for special studies."

This policy has met with the cordial approval of the Director. As a result of its adoption we believe that the members of the two Associations which the Committee represents and the public at large will receive the chief results of the Fourteenth Census months earlier than would have been possible had these volumes been modelled more closely on those of the Thirteenth Census.

This greater promptness of publication the Committee believes to be a decided gain. But great as this gain is, it would be purchased at too high a price if the Bureau of the Census should provide no more adequate analysis of its results than will appear in the main volumes. The Committee lays even more stress upon improving the scientific analysis of the data collected than upon prompt publication.

If these two aims of Census policy—prompt publication and thorough analysis—seem in conflict with each other it is because of defective organization of the census work in the past. Thoughtful analysis is exceedingly difficult to secure while the office feels the pressure for publication of the main reports. Moreover, for thorough analysis of one branch of census statistics careful comparison with other branches is usually necessary. Of course such comparative work is not feasible when each volume is being prepared separately for the printer and every one is working against time. In fact the doubtful value of much of the text in previous censuses is evidence that we cannot expect good analysis to be included in volumes which the law requires to be issued within the census period. It is better to separate the task of printing the tables from that of analyzing the figures; to issue the tables promptly and when they have been printed to submit the more significant to scientific analysis. That is the policy for which the Committee stands.

For this thorough supplemental analysis the Committee has sub-

mitted to the Director of the Census a partial list of topics requiring particular attention; and has recommended that for the preparation of these analyses he secure the services of investigators of recognized standing. The Committee is glad to report that the Director has recognized the desirability of this policy and accepted it in principle. But he has not concealed from the Committee his apprehension lest, after the main volumes have been published, it may prove difficult to secure funds for this scientific work.

Under these circumstances the Committee suggests to the two Associations that they express to the Director of the Census their interest in securing a scientific analysis of census results, their support of his policy of employing scientific men for this work, and their willingness to aid him in carrying out this policy.

This matter is of pressing importance in deciding the character and value of the Fourteenth Census. In addition, it has an importance that is not transient. If a supplemental scientific analysis of the results is made the Committee believes that its value will be so clear and its interest so great that scientific study of the results will become a permanent feature of American censuses. Then the two policies for which the Joint Committee has worked—prompt publication and thorough analysis—will appear in their true light; not as rivals but as supplements.

IMPROVING THE FORM OF THE VOLUMES

In considering the subject of the printed presentation of census results the Committee was convinced that an opportunity existed to effect an important reform. It has kept constantly in mind the inconvenience which workers in statistics encounter whenever they consult census publications. The assumption heretofore has been that the quarto page is necessary for the purpose of effectively presenting census tables. This, however, has been disputed by some experts in census table construction and successful experiments already have been made with octavo volumes. The Committee earnestly favors the latter form but after mature consideration it was not convinced that the experiment had proceeded far enough to insure certainty of success in the varied requirements of all the final reports of a decennial census. This being the case, it perceived the gravity of embarking upon a radical change, not fully matured, which, if not successful, would mean confusion, delay, and great expense. Accordingly it adopted the policy of approving the retention of the quarto form for the volumes of the present census and urging a systematic test of the octavo form in all intercensal reports.

The Committee believed, however, that one serious defect in the quarto form could be remedied. To print census volumes upon paper of the weight and thickness of Government contract wood pulp stock seemed unnecessary, and the Committee recommended the use of paper not exceeding 30 pounds per ream standard size. (See Recommendations 31d and 64.) This simple reform would bring relief to all users of census reports, since a quarto volume of 1,000 pages would not much exceed one inch in thickness and would weigh not over four pounds.

REQUIREMENT FOR ADDITIONAL CENSUS FUNDS

It is appropriate to say that, though the officials of the census necessarily labored under great difficulties in making their estimates as to the cost of the Fourteenth Census, they have been able to keep expenditures within the limits of their estimates. Congress, however, in making appropriations for the work thus far has not granted the full amount requested. The total amount asked for (December, 1919) by the Director was \$23,765,000; three appropriations have been made, totaling \$22,500,000. If Congress will appropriate the remaining \$1,215,000, the Bureau continues confident that this amount will suffice to complete the tabulation and publication of the results of the Fourteenth census. On the other hand, if no additional appropriation is made, at the present rate of expenditure, one-third of the decennial census period, namely, a fiscal year, is unprovided for. The possible lack of adequate funds is a factor that must be considered in the plans now pending for the completion and publication of the Fourteenth Census within the legal period.

PROGRESS OF THE FOURTEENTH CENSUS

In conclusion the Committee desires to set forth in considerable detail for the information of the two Associations which it represents, and also for reference in future census work the time schedules and accomplishments of the principal divisions of the Bureau in taking the Fourteenth Census.

For administrative purposes the work of the census falls into five stages. (1) Preliminary work, consisting of the preparation of the schedules and instructions, and appointment and training of the field force. (2) The field work. (3) The receipt of the returns and their preparation for tabulation. (4) The tabulation. (5) The preparation of the final tables and reports.

The work of the first three stages is now virtually finished, at least for population and agriculture; and the fourth finished so far as con-

cerns the distribution of the population of the United States according to states, counties, and minor civil divisions. The field work on the census of manufactures continues through a longer period, and thus the stages of work in this division do not synchronize with those in the Divisions of Population and Agriculture.

A limited time—3 years—being allowed by the law for the completion and publication of the census, it is necessary to decide in advance upon the dates on which certain stages of the work shall be finished. For example, the supervisors should all be appointed months in advance of the date on which the enumeration is to start. The schedules and instructions should all be printed and ready to deliver to the supervisors at the time of their appointment. A time schedule should be drawn up for the beginning of the enumeration; its completion; receiving the schedules at the office; beginning and finishing of editing; beginning and finishing of card punching, sorting, and tabulating; preparing manuscript; and printing.

In compliance with the request of the Committee, the Director furnished statements fixing, so far as possible, the dates on which these various processes should be finished. The Committee is glad to be able to report that the work in the two large divisions of population and agriculture, though somewhat delayed in the early stages, has now been brought up approximately to schedule.

Population

The Population Division is responsible for the instruction of the supervisors and enumerators, also for the shipment of all blanks required for their work; the receipt of the completed returns and their distribution to other divisions of the Bureau.

During July, August, and September, 1919, the Population Division was to prepare and have printed the schedules and instructions to supervisors and enumerators for enumeration of the population, prepare and have printed the special schedules and instructions for the outlying territories of Alaska, Hawaii, Guam, Samoa, Porto Rico, and the Panama Canal Zone, and the military and naval forces stationed abroad, and was to begin the shipment to the supervisors of the supplies required for their office and field work. The division accomplished all of this preliminary work that it was contemplated would be done during the three months, so far as the appointment of the supervisors permitted. By the end of September 357 supervisors out of a total of 372 had been appointed.

The work of the Geographer's Division is closely associated with this initial stage of the work of the Population Division. The Geog-

rapher is primarily responsible for the establishment of the boundaries of enumeration districts. A statement of the boundaries in his district is sent to each supervisor for criticism and correction. It was expected that all enumeration districts would be established before September 1, but it was found impossible to accomplish this, and by the end of September the boundaries of enumeration districts for only 351 of the supervisors' districts, or not quite 95 per cent, had been established.

During October, November, and December, 1919, the rest of the supervisors were to be appointed, the boundaries of enumeration districts completed and the enumerators selected and instructed so that they would be in a position to begin work promptly on January 2, 1920, the division to have charge of the correspondence with the supervisors and enumerators was to be organized and a large amount of other miscellaneous work incident to the organization of the field force was to be done.

During these months the schedule also called for the accomplishment of the following work: determining the form of the punch card to be used for the census of population, making final arrangements in regard to the installation of 843 punches, 23 sorting machines, and 30 tabulating machines.

All of the work outlined for the office force was accomplished. By January 1 all the supervisors had been appointed; but owing to the abnormal industrial and social conditions following the war the supervisors found great difficulty in securing qualified persons to act as enumerators, and in a large number of districts the work of enumeration was not started on January 2.

The work called for by the schedule in the first half of 1920 was as follows: To complete the enumeration of the population; to organize the large force of clerks required to make the preliminary hand count of population, and to edit the schedules; to organize the force of operatives for punching the cards; to approve and turn over to the Disbursing Clerk the enumerators' vouchers; to begin the publication of preliminary totals for the population in cities and minor civil divisions; to establish the form of the state bulletin presenting the statistics of population by counties, cities, and minor civil divisions.

The delay in the appointment of the enumerators, principally due to a country-wide scarcity of labor, affected not only the field work but also that of the Bureau at Washington. The severe weather conditions which prevailed throughout the United States during January, February, and even March, also greatly retarded the work of the enumerators. The law contemplates that the enumeration shall be

completed in one month. In the majority of the enumerators' districts it was necessary to extend this period, and in a few the work was not completed before July 1; in fact there were three or four districts in which the work was not finished until even later in the year. The first schedules from the enumerators were received on January 15 and the examination and preliminary count were started promptly on January 17. Announcements of population were made for the District of Columbia and Cincinnati, Ohio, on February 21. Editing of the schedules started about February 1, and the punching of the cards on March 1. During the latter part of this period, preliminary announcements for cities, counties, and states, were made daily. Although hampered by failure to receive complete returns from the field, the Population Division had accomplished by July 1 all that reasonably could be expected. During this period the Committee had several conferences with the officials of the Bureau in regard to the form of the bulletins and reports for population, but the final form of the state bulletins could not be determined until the October meeting.

During the last half of 1920, the schedule provided that the Population Division should reach its maximum size; that the editing of the schedules and the punching of the population cards should be finished; that the verification of the cards by the tabulating machines should be completed; that the total population of the United States should be announced; that a start should be made in the publication of bulletins giving the population by minor civil divisions; that preparations should be made for the first and second runs of the population cards and this work started; that the form of the tables for the bulletins giving the composition and characteristics of the population should be fixed. It was also planned to begin in this period the publication of preliminary figures giving the analysis of the population by color or race. The schedule further provided for organizing during this period the force required to edit the schedules for the census of occupations; establishing the form of the card to be used; and starting the work of punching these cards.

Much of this work has been completed and it seems probable that the remainder will be accomplished by the end of the period, but in justice to the Bureau the Committee desires to call attention to the unusual difficulties attending the organization of the force of clerks and operatives. There seemed to be a scarcity of persons qualified and willing to do the work. Special arrangements were made with the Civil Service Commission to hold examinations in the Bureau at Washington, and appointments were made without delay.

The Bureau's records show that to operate the punching machines

day and night in the Population Division required about 1,600 people. To operate the machines in the Division of Agriculture required about 1,100 people. To appoint this force of 2,700 operators the Bureau communicated with 9,333 persons eligible for appointment. Of this number 391 declined to consider the appointment, 1,730 neglected to answer the inquiry, and 2,190 were rejected for various reasons. A total of 5,022 appointments were made during the period from March 1 to September 1, 1920.

This indicates an excessive turnover in the force, which added materially to the difficulties and expense of the work. Clerks and operatives would report for duty, work a few days, and resign. This was due in part to the prevailing shortage of labor, but especially to the low wages paid by the Bureau for this class of work as compared with wages then obtainable in the industrial world. When the Committee met on May 28, this situation had become so acute that to assist the Director to meet it, the following recommendation was adopted:

"The Committee regrets to learn of the continued difficulty in securing adequate output from the pantagraph punches. Since the whole success of the Census, from the standpoint of prompt accomplishment of its work, rests primarily upon speeding up this initial process, the Committee strongly recommends that a new system of employment and payment be established for the night shift and, if advisable, also for the day shift. Under this new plan such increased compensation should be offered, up to 60 cents a hundred, as will attract competent and steady workers. These temporary workers should be employed outside the Civil Service classification and without any of the privileges (sick leave, etc.) customary for the permanent employees of the Government.

It is the belief of the Committee that a careful comparison of the cost of the present service, unsatisfactory because of its large labor turnover and small output, with an efficient service at largely increased pay, would show under present conditions the real economy of higher wages.

In any case, it is absolutely essential that the present situation be corrected by prompt and vigorous action. Freedom from Civil Service regulations and an attractive piece-rate are fundamental. The Committee desires to record formally its recommendation that these steps be taken at once."

The Bureau adopted the policy of increasing its piece-work rate of pay for punching the cards. This change worked fairly satisfactorily. It is doubtful if the Director of any earlier census ever encountered more serious labor problems than those encountered by the present Director.

The preliminary count of the population of the United States was announced on October 7, which was relatively twelve days later than the date of the corresponding announcement at the last census. While comparisons in such matters are difficult to make in definite terms,

officials connected with both censuses insist that more satisfactory progress has been made at the Fourteenth than at the Thirteenth Census, because during this period other branches of the work were carried to a more advanced stage.

Most of the errors in the census are due to defects of enumeration, such as the omission of individuals or incorrect replies. The term of employment of the supervisors and enumerators is too short for them to understand the work thoroughly and to appreciate the importance of a strict compliance with the regulations prepared for the purpose of assuring the enumeration of every individual. In some cases the enumerators will neglect, through oversight or carelessness, to enumerate certain portions of their districts; in others, persons residing within corporate limits will be enumerated outside the limits, or those outside will be enumerated within the limits. In some cases supervisors neglect to appoint enumerators for certain districts. In others they do not give the close supervision necessary to ensure thorough enumeration.

To reduce these errors to a minimum, the Bureau, at the Fourteenth Census, early solicited the coöperation of chambers of commerce, boards of trade, and public-spirited citizens throughout the entire country. These organizations and persons were requested to coöperate with the supervisors and enumerators, and, if they believed that a careless enumeration was being made, to call the facts to the attention of the supervisor, or to communicate directly with the Bureau at Washington. As a further precaution against errors of omission, arrangements were made to publish the preliminary totals for all cities, counties, and minor civil divisions just as quickly as the data could be assembled and to send copies of these preliminary statements to chambers of commerce, boards of trade, and other persons for the purpose of verification. This practice has resulted in the correction of many errors such as, it is believed, crept into prior censuses and were never detected.

While the vast majority of the complaints of defective enumeration proved upon examination to have slight foundation, there were a number of instances in which the Bureau after checking the work of the enumerators added considerable numbers to the population of cities and townships. This was the case in Richmond, Va., Birmingham, Ala., Gainesville, Fla., Kansas City, Mo., and Pueblo, Colo. In some cases the mayors of the cities and representatives of the civic organizations made an independent canvass of their cities, listing the names of all residents. These lists were brought to Washington by the city representatives and compared with the returns of the enumerators. The persons found on the new lists but not on the original schedules

were subsequently visited by sworn enumerators and, if eligible for enumeration, included in the population of the cities.

By this policy the Bureau not only reduced the margin of error in its statistics of population but also secured the coöperation of local authorities in safeguarding its work—contacts that should prove helpful to the Bureau at subsequent enumerations. The Joint Committee regards this policy as a marked improvement, which should become a permanent feature of census taking.

Agriculture

In the Division of Agriculture it was planned that during the last six months of 1919, the schedules, forms, and instructions should be established and printed; publicity work should be conducted to familiarize the farmers with the scope, purpose, and value of the statistics of agriculture; lists of irrigation and drainage enterprises required for the field force should be prepared; arrangements should be made for the purchase or lease of all mechanical equipment for punching and tabulating the cards; the schedule and card files should be constructed and systems of filing worked out; forms of tables should be established and figures for the census of 1910 entered; and the general plan and scope of the bulletins and reports should be established. Except for the detailed plan of the bulletins and reports all of this work was finished within the period named.

The work planned for the first half of 1920 was to complete the enumeration, make a preliminary examination of the schedules as they were received from the enumerators; carry on correspondence looking toward their completion and toward the further instruction of supervisors and enumerators who were doing inefficient work; complete the instructions for clerks who were to edit the schedules; organize a force of approximately 400 clerks required for editing; complete the instructions for punching the cards and organize a force of approximately 1,100 clerks for this work; install 70 sorting machines and 61 tabulating machines; establish the forms of result slips upon which the data from the tabulating machines are entered; begin the publication of preliminary totals for counties; publish a bulletin showing the number of farms by states and counties; and arrange for the publication of preliminary press announcements of the totals for counties.

The Division of Agriculture was able to maintain its schedule with but one exception. Since the farm schedules were secured by the enumerators for population the delay in the appointment of the enumerators retarded the completion of the enumeration of farms. This delay made it impossible to publish the bulletin on the number of farms until October 7, 1920.

At the Thirteenth Census two bulletins on agriculture were issued for each state, of which the first apparently was printed to meet the urgent demand for prompt publication of results and contained data on practically all the subjects covered by the schedule. The second bulletin contained additional details concerning the same subjects and text consisting largely of a repetition of the figures in the tables. For the Fourteenth Census, in accordance with the general policy agreed upon by the Bureau, it was decided to publish but one bulletin for each state and to confine the text to essential explanatory matter. This arrangement has not only eliminated duplication, but has also made possible a more logical and compact presentation of the data. A considerable saving in expense has been effected and at the same time an earlier date secured for the publication of the final report.

The schedule for the last half of 1920 was as follows: To complete the editing and preparation of the schedules for the card punching; bring the number of operatives up to the required maximum; keep all of the sorting and tabulating machines in operation during the entire period; begin the publication of state bulletins on agriculture; issue the first of the series of preliminary announcements of statistics of agriculture by states and preliminary statistics of irrigation and drainage.

The first preliminary statement was issued on June 1, 1920, for Cheatham County, Tennessee. The first bulletin was issued on September 22, for New Hampshire. Up to November 1, the Bureau had published 228 county press summaries for agriculture, 139 for drainage, and 157 for irrigation, and sent to the printer copy for four state bulletins. The preliminary examination of schedules was completed on July 21, and the editing of schedules on August 4. The punching of cards for the census of agriculture, originally scheduled to be completed by June 30, 1921, will be completed in December, 1920. The work of this division appears to be well advanced.

During the first half of 1921 it is planned to complete the tabulation of the cards for the census of agriculture, publish the bulletins for most of the states, and make substantial progress in the preparation of the tables for the final report.

Manufactures

The field work of the census of manufactures differs from that of population and agriculture in that returns are secured by mail so far as possible. Where this is not possible, special agents secure the schedules by visiting the plants.

At the beginning of the census period a large proportion of the experienced employees of the Census Bureau were in the Division of

Manufactures. It was necessary that these trained employees should be utilized to instruct supervisors and to act as supervisors in districts where vacancies occurred. This necessarily postponed the date on which the field force of the Division of Manufactures could be completely organized, and retarded the completion of the enumeration.

The Division of Manufactures planned to complete during the last half of 1919 the list of the names and addresses of the manufacturing establishments and of the central offices from which a number of separate plants are managed; prepare all schedules and instructions; divide the United States into convenient districts for the field force; prepare the schedules to be mailed to the manufacturing establishments; select the special agents for the field work; and begin the organization of the field force.

The program for the first half of 1920 was as follows: Mail schedules; organize the field force and the clerical force; make preliminary examination of the schedules received; organize the editing force; decide upon the methods of tabulation; close the enumeration in certain districts; and, if possible, begin issuing preliminary statistics for cities.

The Committee learned at the meeting in November that the field work of the Division of Manufactures had been greatly delayed by the difficulty of securing and retaining the services of competent field agents. This was due to the low salary permitted under the law, \$125 per month being the maximum. Fourteen hundred agents were needed, but by July 1, in spite of every effort on the part of the Division, only 1,000 were at work. In some places, notably in Detroit, the appearance of a business-like representative of the Bureau in the office of a corporation needing clerical assistance led to attractive offers of immediate employment. These offers were often accepted on the spot and it is difficult to exaggerate the embarrassment of the field supervisors deprived of valuable special agents and unable to fill their places. By reason of this rapid turnover it was decided not to incur further expense and delay by continued effort to secure and train additional men, and the Division proceeded to carry through the field work with the limited force at its disposal on July 1.

The plan for the last half of 1920 contemplated completing the enumeration; editing all the schedules; organizing the force for this work. By the close of November the field work of collecting the reports was practically finished, but the last of the outstanding schedules will not come in before the end of the year. The method of tabulation has been decided upon, and the punched card system will be used for the first time in this branch of census work. All of the blanks required for the work have been prepared. A start has been made in issuing

preliminary summaries of results. Such statements have been published for the District of Columbia and Hawaii.

At the present time the Committee is advising with the Bureau as to the form of tables and the character of text to be included in the bulletins and final reports of the Division of Manufactures.

FOR THE AMERICAN STATISTICAL ASSOCIATION:

WILLIAM S. ROSSITER, Chairman,
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WALTER F. WILLCOX,
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December 1, 1920.

APPENDIX

RECOMMENDATIONS MADE TO THE DIRECTOR OF THE CENSUS BY THE JOINT COMMITTEE OF THE AMERICAN ECONOMIC AND THE AMERICAN STATISTICAL ASSOCIATIONS TO ADVISE THE DIRECTOR OF THE CENSUS.

40. Incorporated places which are primary civil divisions, with the population figures, will be retained in the minor civil division table, but other incorporated places will be included in that table only by name (*e.g.* Prattsville, including Prattsville town).

41. The Committee recommends that population by wards be omitted from the minor civil division table and that a separate table be included to show population by wards for 1920 only for cities of 5,000 inhabitants or over, this table to be constructed four columns to the page.

42. The Committee approves the inclusion of two new county tables in the first series of population bulletins which shall embody data that in 1910 were shown in the first part of the county table of the second series. The first of these new tables will show the population from 1850 to 1920, the per cent of increase for the last three decades, and the land area and population per square mile for 1920. The other table, which will be the last table of this bulletin, will show the urban and rural population in 1920, 1910, and 1900, the per cent urban in these three years, the per cent of increase in urban and rural population, respectively, in the last two decades, and the rural population per square mile in 1920. In this last table only those counties each of which contains one or more incorporated places of at least 2,500 inhabitants in 1920 will be shown separately, the totals for all the other counties in a given state, *i. e.*, the rural counties, being given on a single line at the end with a note showing the names of those counties.

43. The Committee recommends that the presentation of data for counties and for principal cities in the state supplement bulletins for population be reduced to a one-page stub, and that the information thus omitted from the state bulletins appear so far as practicable in the report on population by subjects, together with certain of the data already contained in the state supplement bulletins.

44. The Committee discussed with the Chief Statistician for Agriculture his general plan for the tabulation of data secured from the Fourteenth Census farm schedule. The Committee approves the outline and series of tables proposed, but anticipates that minor departures from it may become necessary as the work progresses.

45. The Committee approves of the plan of the Division of Agriculture to publish statistics of number of farms, by counties, for the present census and for the two preceding censuses at the earliest possible date after the completion of the enumeration.

46. The Committee believes that the number of percentages and averages included in the final volumes of the Thirteenth Census was so great as to delay their

publication and accordingly recommends that the figures of this description in the volumes of the Fourteenth Census be greatly reduced.

47. The Committee recommends—
 - a. That all text tables shall be numbered and bear titles.
 - b. That Roman numerals be used for numbering text tables and Arabic numerals be used for numbering general tables.
48. The Committee recommends that its Resolution No. 31g as follows: "To the end that all possible saving of time may be effected, it is recommended that practically all so-called interpretative text be omitted from the bulletins and reports of the Fourteenth Census and that no text be printed in the bulletins and final reports that is not needed to clarify tables or to prevent misconstruction of figures, and that all interpretation be reserved for special studies," shall apply to the preparation of all text in the state bulletins and final reports relating to population, agriculture, and manufactures.
49. The Committee recommends that cartograms such as were used in the Thirteenth Census be included in bulletins of the Fourteenth Census, where appropriate, providing that the preparation of such cartograms does not delay the publication of a bulletin more than ten days.
50. The Committee recommends that, in determining the boundaries to be used in reporting the population of any municipality, the Bureau of the Census should follow the limits of that municipality as determined by law, and that, in cases where the census of 1910 did not follow this rule, its figures be amended so as to become comparable with those for 1920, the change to be explained in a footnote.
51. The Committee approves the following plan, submitted by the Chief Statistician for Population, for classifying foreign white stock:
 - a. That the foreign born be classified:
 - (1) By mother tongue and country of their own birth, on the basis of the post-war map.
 - (2) By mother tongue and country of birth of their parents on the basis of the pre-war map.
 - b. That the native born of foreign parentage be classified by mother tongue and country of birth of their parents on the basis of the pre-war map.
52. The Committee approves the outline submitted by the Chief Statistician for Population, indicating the plan to be followed in preparing the material for the occupations report, and recommends—
 - a. That the Chief Statistician for Population proceed as rapidly as possible to edit the schedules and punch the cards required for the census of occupations.
 - b. That the Director adopt the policy of publishing the occupations report within the decennial census period and that, if necessary, certain other topics, to be decided upon later, be sacrificed in order to include occupations, the working out of this policy to be determined by the Director in conference with the Advisory Committee at a subsequent meeting.
53. The Committee approves a plan submitted by the Chief Statistician for Manufactures of reporting data by industrial zones, provided that where so-called

metropolitan districts are recognized by the Division of Population, these metropolitan districts and the corresponding industrial zones shall be coterminous.

54. The Committee recommends that the Abstract be published in one octavo volume, not to exceed 1000 pages, and that it contain only the more important figures with reference to each of the three general subjects of investigation. The Abstract is not to be a substitute for the general volume on each subject. Further details as to data to be included will be considered at a future meeting.
55. The Committee, having conferred at length with the Chief Statistician for Population and his expert assistant and with the Chief Statistician for Revision and Results concerning the table form and content of the second series of population bulletins, has approved certain forms submitted for summary tables and advised the incorporation of certain desired items from the proposed forms of both experts. These combined data have been fully considered and approved by the officials and their adoption is recommended by the Committee. It is understood that complete forms as indicated will be at once drawn off by the Bureau and submitted for final approval to the Committee. The forms tentatively approved include a one-page stub for the county table and for cities of 10,000 inhabitants or more, a half-page stub for incorporated places of 2,500 to 10,000 inhabitants, and a one-page stub differing from that used for the counties for the wards of cities of 50,000 inhabitants or more.
56. The Committee regrets to learn of the continued difficulty in securing adequate output from the pantagraph punches. Since the whole success of the Census, from the standpoint of prompt accomplishment of its work, rests primarily upon speeding up this initial process, the Committee strongly recommends that a new system of employment and payment be established for the night shift and, if advisable, also for the day shift. Under this new plan such increased compensation should be offered, up to 60 cents a hundred, as will attract competent and steady workers. These temporary workers should be employed outside the Civil Service classification and without any of the privileges (sick leave, etc.) customary for the permanent employees of the Government.

It is the belief of the Committee that a careful comparison of the cost of the present service, unsatisfactory because of its large labor turnover and small output, with an efficient service at largely increased pay, would show under present conditions the real economy of the higher wages.

In any case, it is absolutely essential that the present situation be corrected by prompt and vigorous action. Freedom from Civil Service regulations and an attractive piece-rate are fundamental. The Committee desires to record formally its recommendation that these steps be taken at once.
57. While the Committee approves in the main the bulletin on agriculture for New Hampshire, it suggests that the text, after being curtailed in the manner indicated in the revised form submitted at this meeting, be printed in type smaller than ordinary text type under the title "explanations," such explanations to remain next to the individual tables; and in this connection the Committee calls attention to its general recommendation made in Recommendations Nos. 31g and 48, namely, that all so-called interpretative text be omitted from bulletins and reports of the Fourteenth Census.

58. The Advisory Committee approves the form and content of the first series of

state bulletins of population as exemplified by the bulletin for Maryland submitted in proof.

59. The Committee, having examined the basic tables of Chapters I, II, III, V, and XV, of the General Report on Population for 1910, reached the following conclusions regarding the corresponding sections of the Report for 1920:

a. In Chapter I (Number and distribution of inhabitants) the Committee recommends that Table 64, relating to counties, be retained, but that a table showing incorporated places be substituted for Table 59.

b. In Chapter II (Color or race, nativity, and parentage) the Committee approves the arrangement of Table 21.

The omission of Table 48 (Indian, Chinese, and Japanese population in cities of 25,000 inhabitants or more) is recommended.

The Assistant Director's suggestion that the detail of Table 46 be reduced to conform to the detail of Table 47 and that the two tables be combined in one table arranged alphabetically by states is approved.

The Committee approves Table 40 in its form in the 1910 volume.

Table 42, with such changes as are necessitated by the separation of foreign and mixed parentage, is approved.

c. The Committee recommends that in Table 21 of Chapter III (Sex) the absolute numbers and the ratios be given for 1920, but that for 1910 and 1900 the ratios only be shown, and the table be presented in half measure. The separation of foreign and mixed parentage is also to be made in this chapter. It is recommended that Tables 26, 27, and 28 be combined in one table, to conform to the revised form of Table 21.

d. With regard to Chapter V (Marital condition) the Committee approves the presentation of marital condition figures for persons 15 to 34 years of age by single years of age.

e. The Committee approves in general the form of the tables in Chapter XV (Dwellings and families).

60. The Committee has considered the statement of the Chief Statistician for Manufactures concerning the progress of his work and the proposed form of the bulletins on manufactures by states. It is gratified to learn that the form of presentation can be readily made to agree with the style recommended by the Committee and adopted by the Bureau for the bulletins on agriculture and population. The Committee invites attention to the original recommendation on this subject (No. 48), which included the publications of manufactures as well as those of population and agriculture. It is understood that the Chief Statistician for Manufactures will submit to the Committee at its next meeting outlines of tables which he plans to utilize in the state bulletins about to be prepared by his division.

61. The tables on "Marital Condition" in 1910 (Census Vol. I: pp. 507-687) describe a situation not very different from that in 1890 and 1900.

Since the marital condition ratios do not change from census to census as greatly as the ratios in occupations and since the occupation tables in 1910 were greatly curtailed, the Committee recommends that if serious abridgement in the tabulation of one field or the other is necessary it should be made in the tabulation of marital condition.

62. The Joint Committee approves the form and content of the bulletin "Agriculture: Delaware" as a standard form for the state bulletins on agriculture and

withdraws that portion of Recommendation 57 which advised the use of type smaller than ordinary text type for reading matter to appear in this series of bulletins. It recommends that the text on wool and mohair be omitted.

63. The Committee has inquired of the official in charge of Census printing concerning the service likely to be secured by the Bureau from the Government Printing Office in printing and binding the bulletins and final reports of the Fourteenth Census, and is gratified to learn that no serious delays are anticipated. In view of this favorable outlook the Committee recommends that the Director of the Census reach at an early date a definite understanding with the Public Printer concerning the total volume of printing required to present the results of the Fourteenth Census, the time to be allowed for the various operations, and the best method of scheduling the work in order that it may all be produced prior to July 1, 1922.
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64. The Committee recommends that the final reports of the Fourteenth Census be printed in quarto size, and that the weight of paper used in these reports be reduced (at least in all copies issued for general distribution) to 30 pounds per ream, of a size 25 by 38. The use of paper of the weight proposed is regarded by the Committee as an urgently needed reform at this census. It will tend to minimize the inconvenience now experienced by all users of census volumes owing to the weight and bulk of final reports. There appears to be no practical objection to the use of paper of the weight proposed; increased cost per pound, for example, is approximately offset by reduced weight. The Committee considers that minor objections, if any appear, should not be permitted to prevent effecting this change which is certain to prove of great importance to all users of census final reports.

a. The Committee further recommends that if the Director approve of the foregoing recommendation, steps be taken at once by him to secure the coöperation of the Public Printer and, if necessary, of the Joint Committee on Printing, in effecting this reduction in the weight of paper to be used in the reports of the Fourteenth Census.